



Artisoft TeleVantage 6 PBX Test Testing Report for CMP Media

July, 2004

1 Overview

CT Labs was asked by CMP Media to evaluate the Artisoft TeleVantage 6 (TV6) PBX product. CT Labs performed these evaluation and tests in the CT Labs Rocklin, CA facility and summarized the results in this report. This report was forwarded to CMP Media for publication in *Communications Convergence Magazine* and the popular Commweb website (www.commweb.com).

2 Executive Summary

Artisoft sent the TeleVantage 6 software already installed on a server as a turnkey solution. Two Uniden UIP 300 H.323 IP phones were installed as station sets, and the installation wizard was used to install the ViewPoint client onto a lab workstation.

Feature-wise, CT Labs found the TeleVantage 6 product to contain a full complement of features, including full ACD functionality, call screening, customizable auto-attendant, and touch-tone call-control features from station phones.

CT Labs found the product documentation to be very thorough, with some of the most complete indexes that we have seen. While the on-line help files for both the administrative and user GUIs were strong on describing the screens and options, the administrative GUI's help was lean on "how to" information. The GUIs themselves were well-designed, with descriptive labels and easily identifiable icons. The TeleVantage 6 telephone user interfaces were found to be logically designed with informative prompts.

CT Labs manually exercised the TeleVantage 6 system with analog phones and Artisoft-provided Uniden UIP 300 H.323 IP phones. All the tested features were found to work without problems. We did find that the Uniden phones sometimes had one to two seconds of delay in receiving dial-tone after going off-hook, or before ringing when a internal call was placed. However, once a call was established between any phones in the test bed, there was no noticeable speech latency during the conversation.

Overall, we found the Artisoft TeleVantage 6 system to be a robust and feature-rich solution that performed very well and provided traditional phone as well as IP phone support.

2.1 Product Review Results Grid

The following are the results of the CT Labs evaluation of the Artisoft TeleVantage 6 system:

Table 1: Review Results Grid

Product Evaluation Score (each rated out of a possible 10)	Product Score	Relative Weight (%)	Weighted Score
Ease of installation & configuration	9.0	10	0.95
Core product features	9.3	25	2.33
Product documentation, online help	8.5	10	0.85
Graphical user interface(s)	9.0	10	0.90
Telephone user interface	8.5	10	0.85
Manual PBX feature exercise	9.2	10	0.92
Manual PBX functionality tests	9.4	20	1.88
Technical Support	9.5	5	0.48
Total		100	9.16

The weighted score is calculated by multiplying the score for a given category by the relative weight (e.g. a score of 6 times a weight of 10% would yield a weighted score of 0.6). Note that the maximum weighted score for a given product for the sum of all evaluation categories is 10.

3 General Review Test Information

3.1 *General goals of the evaluation*

This section lists the "guiding light" questions that we are attempting to answer as a result of performing the test procedures and analysis for this product:

1. How easy is it to install and set up (a) the PBX server components, (b) a client workstation, and (c) an administrative console?
2. How easy is this system to administer and maintain from (a) a local console, and (b) a remote console?
3. How easy-to-use are the product's graphical user interface programs (administrative as well as client programs, if available)?
4. How easy-to-use is the telephone user interface (TUI) for any call-in components (e.g. auto attendant, voice mail, etc)?
5. How do the integrated voice messaging and auto attendant features compare with typical enterprise voice mail systems in terms of feature depth?
6. How do the supported SIP Phone devices perform with respect to perceived speech quality and call handling?
7. How effective and helpful is the product's documentation package?
8. How effective and helpful is the product's on-line help for the product's graphical user interface programs?

3.2 *Vendor equipment provided*

The vendor was asked to provide CT Labs with the following:

- A fully turnkey solution with processor and memory support chosen to correctly match the production requirements for the trunk and station line density of the unit provided.
- Support for standard auto attendant and voice mail features.
- At least two desktop IP phones. Softphone software is optional.
- One IP-PSTN Gateway
- Telephone line support requirements:
 - Trunk-side lines.** Systems may be provided with trunk line support for analog FXO lines, T-1 robbed bit, or ISDN PRI. A minimum of 4 incoming trunk lines must be provided.
 - Station-side lines.** A minimum of 4 phones will be used in this test.
- Provide CT Labs with optional installation and setup assistance by a trained system installer for one to two business days.

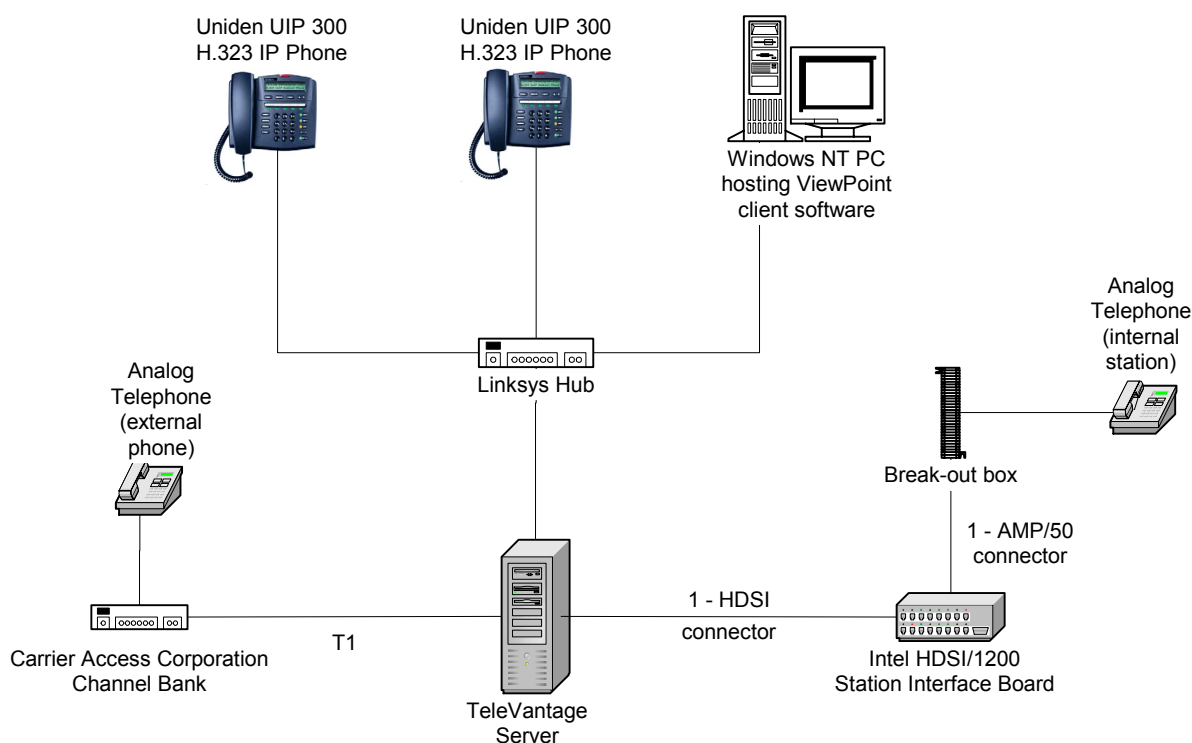
3.3 *The vendor was invited to the lab*

The vendor was invited to bring their experts here to install and configure their system. Prior to this test the vendor was allowed to review the test and scoring methodology document that defined the tests that we intended to perform for this review. Artisoft did not feel that it was necessary to send a representative to help with this test since they completed all installation and configuration before they sent us the system.

4 Test Setup Description

Artisoft supplied CT Labs with the TeleVantage 6 already installed on an Intel P4, 2.4 GHz server with 1 GB RAM running Windows 2003. Artisoft also provided an Intel HDSI/1200 station interface board that supported up to 120 station analog phones. The Intel HDSI/1200 was connected to the TeleVantage server via an HDSI connector cable. A break-out box was then used to connect our “internal” analog station phone. The TeleVantage server, two Uniden UIP 300 H.323 IP phones, and the Viewpoint workstation were connected to the “internal” network segment via a Linksys hub. To simulate an “external” analog phone, the TeleVantage server was connected to an analog phone via T1 to a Carrier Access Corporation channel bank.

Figure 1 – Artisoft TeleVantage 6 PBX Test Setup



4.1 Equipment Tested

The following is information about the components that were provided to CT Labs for this test:

Table 2: Equipment Tested

Item	Details
Product Name	TeleVantage 6
Product Server	TeleVantage server
Software Version Number	6.00.2584
Desktop Phones	2 analog phones, 2 Uniden UIP 300 H.323 IP phones
Softphones	none
IP-PSTN Gateway	none

4.2 Equipment Pricing

The following information was supplied by Artisoft as pricing for the TeleVantage 6 system and its optional components as of August 11, 2004. Please note that this pricing information is subject to change by Artisoft at any time. Please contact Artisoft or your local Artisoft distributor directly for the latest pricing.

Table 3: MSRP for Equipment Tested

Item	MSRP
Artisoft TeleVantage 6.0	
46 ISDN trunks @ \$200 MSRP each	\$9200 MSRP
96 analog stations @ \$100 MSRP each	\$9600 MSRP
12 IP trunks @ \$250 MSRP each	\$3000 MSRP

5 Evaluation Results

The remainder of this report presents the results of tests and analysis performed on the Artisoft TeleVantage 6 PBX.

5.1 *Installation and Configuration Evaluation*

Artisoft provided a server with the TeleVantage 6 already installed and partially configured – a turnkey solution. Some additional configuration work remained to add the Uniden UIP 300 H.323 IP phones to the setup. In just working with the administrative GUI, we could not figure out how to set up the IP phones as station phones, so we asked for help from our Artisoft technical support contact. He told us that there are two options for setting up the IP phones. The first way is to set them up as “external” extensions, which allows the TeleVantage server to directly identify the phone as an H.323 phone, and for some specific phones, allows the TeleVantage server to control phone features like the message waiting light. The second way is to set the user up with a normal internal extension, and then set the forwarding for the user to redirect all calls to the IP address of the IP Phone. Usually, this “forwarding” option is used for workers who sometimes work in the office, and sometimes work remotely. They can have a regular phone extension on their desk at work, and when they work remotely, have the calls forward to their remote IP phone. Since we wanted the TeleVantage server to identify our IP phones directly, we chose to set them up as “external” extensions, and the Artisoft representative walked us through opening the advanced configuration file and changing the setting to allow external extensions. Once this was done, it was easy to use the drop-down menus when adding a new user to designate the Uniden phones as the user’s phone device and get them assigned extensions in the TeleVantage 6 system.

To test operating system compatibility, the ViewPoint client was installed on one of our older lab workstations running Windows NT. ViewPoint installs using a simple wizard-based program. Once installed, the user logs into ViewPoint and chooses their associated phone device (if any) to initiate the program. From there, the user can choose to customize their settings for a variety of things like personal status, call announcing, notification options, and personal workgroups.

Overall, we rated the TeleVantage 6 installation and configuration a “9.0.”

5.2 Product Features

This section lists a series of key product features as submitted by Artisoft. Not all features were tested by CT Labs due to time limitations. For information on features that *were* tested, please see the Manual Performance Testing section of this report. Scoring is based on our overall experience and expectations with IP-based PBX products. Additional credit is given for features that we consider unique or innovative. If features are missing that we consider “core”, the score is decreased proportional to that feature’s importance.

Table 3: Product Feature Grid

Features	Artisoft TeleVantage 6 PBX
PBX Features	
Scalable from 4x8 to 288x720	TeleVantage employs a modular design using Intel Dialog cards and software license keys. This lets the product service multiple size businesses from small to large and lets users easily scale their phone system as their needs expand without having to throw away their prior investment.
Analog , Digital, VoIP trunking	Loop start analog lines, T1 (robbed bit & PRI), E1 (R2 and PRI), and BRI trunking is supported including support for Caller ID and DID functions. VoIP trunking can also be used for remote connections between systems or to remote employees with VoIP connections.
Toshiba, ADSI, IP feature phones	TeleVantage supports a range of handsets from basic analog sets optionally with Caller ID and Message Waiting light, to fuller analog feature phones with large soft-key screen displays, Toshiba digital phones, and VoIP phones. The Toshiba digital sets are available with and without screen display and models with 10 and 20 programmable buttons / call appearance lights that can optionally be set to watch and handle calls to other extensions on the system. Any H.323 phone can be used with TeleVantage. Artisoft partners with and recommends the Uniden UIP300 and the Polycom IP500 as VoIP desksets.
Hold & Park with configurable ring back reminder and per user MOH	Calls can be placed on Hold to be picked up later, or parked to be picked up at another location. Music/audio heard by callers while on hold can be set based on who put the call on hold or what line was dialed. Held calls can be set to re-ring the extension after a settable number of seconds.
Conferencing	TeleVantage provide a very flexible interface for conferencing. Calls can be conferenced whether the internal phone user initiated or received the calls. Conferences can be as simple as 3 parties or grow to 7, 9, 16, or even 30 or 60 parties depending on which Intel hardware is in the system.
Intercom / Paging	Digital phones and ADSI feature phones can be set to automatically answer calls. Some users may prefer to have all their calls auto answer. Also, by dialing a prefix of *15 you can call an extension or group of phones and speak directly into their location, providing intercom or paging functionality.
Account codes	The system can be configured to require users to dial an account code before placing outbound calls and inbound calls can also optionally be marked with account codes. Reports are available for what calls were made for which account number. These features enable businesses, such as law offices, that have to bill back customers for time on the phone, to accurately manage calls placed through their system.
DISA	If enabled to do so, remote or traveling users can call into the system, log in, and get system dial tone to be able to place internal or also external calls.
Tenanting	TeleVantage can be configured so that multiple corporate entities are using the same phone system. Outside callers can be segregated based on number dialed and inside users can be set to have access to one set of trunks versus another. Reports can be run to show activity for each organization / department / tenant grouping.

Features	Artisoft TeleVantage 6 PBX
Executive Whisper / Executive Override	Users can be given permission to whisper into the ear of another user who is on a call. For example, an admin assistant might whisper to an executive about someone waiting in the lobby. Additionally, with the right permissions, someone can barge in and join a call in progress.
Camp on	Users can camp on busy extensions using TeleVantage ViewPoint. Users can set their own extension to automatically camp calls for them when their receive call while busy.
Auto-Attendant Features	
Multi-level auto attendants	Trunks into the system can be set to have calls handled by automated attendant or receptionists. Rich multi level menus can be created by cascading calls from one auto attendant to another.
Dial by name directory	Callers can be provided the option of dialing internal users by name rather than extension.
Auto fax detection	TeleVantage will listen to inbound calls, detect FAXs, and route them appropriately to the designated physical FAX machine or FAX software application of choice.
Time of Day / Holiday routings and greetings.	TeleVantage can change prompts or switch entire auto attendants based on schedules for business hours, holidays, or any custom hours time period.
Voice Messaging Features	
Message Waiting Indication & scheduled external notification	TeleVantage can light a light on your phone and/or play stutter dial tone when you have a voice mail waiting. Additionally TeleVantage can call you at an external number, page you, or email you when you receive a new voice mail; these external notifications can be set to only take place during certain hours as well.
Reply, forward messaging and call back functions	In addition to standard play, save, delete functions, TeleVantage allows users to reply to voice messages directly, or forward them to other users on the system with a pre-ambled introduction. TeleVantage also allows users to automatically return calls from voice mails to the location the call came from or to any other known location for the caller.
Live message screening	Calls can be sent to voice mail as they arrive the user can listen to the message being left by the caller, much as you can with an answering machine. Users can also choose to pull callers out of voice mail and speak with them directly.
Email integration and MS Exchange synchronization	TeleVantage can email voice mails as wav file attachments to email accounts, allowing users to unify their messaging. MS Exchange users can choose to have message deletion synchronized between Exchange and TeleVantage.
Private and Urgent flags	Callers can mark messages as private or urgent. Users will hear this indication by phone and will see it in the voice mail view of ViewPoint the graphical desktop client.
Graphical Voice Mail	Users can run TeleVantage ViewPoint on the desktop PC to graphically see all messages, point and click to play them back in any order, drag and drop to organize in folders, point and click to return calls, take notes on voice mail, and bookmark important sections of messages for later playback.
Export to .WAV	Voice messages can be exported to standard .wav or .vox file formats to be shared with people outside of the corporate voice mail system.
Shared Voice Mail boxes	Users can designate voice mail boxes to be shared by other users such as in the case of a team sharing a mailbox or when users are out of the office for extended periods.
Custom Greetings	Users can set up rules within ViewPoint that affect messages heard by callers. Messages can be set for certain times of day such as during lunch breaks or after hours, and best customers can receive greetings intended just for them.

Features	Artisoft TeleVantage 6 PBX
Administrative Interface Features	
Windows based administration from anywhere	Administrators can log in to the system from their desktop, remotely via a WAN, VPN, or RAS connection, or via Terminal Server and remote desktop technologies.
Device monitor	The TeleVantage device monitor shows real time trunk and station status, which trunk is connected to which station or what outside number. Administrators can also point and click to restart a trunk or station remotely without having to be on site to unplug and reconnect any wires.
Point and click Moves, Adds, and Changes	All users are created by pointing and clicking in the graphical Windows TeleVantage Administrator. User settings, locations, permissions, etc. can be easily changed as well.
Class of Service permissions	Users can be organized into groups and given permissions based on their group membership.
Dialing restrictions	Administrators can control which numbers can be dialed and which cannot. Blocks of numbers can be restricted but certain numbers can be excepted from any rule. This allows administrators to for example block paid for service numbers or international calling in general but perhaps specifically allow calling to one country or to a specific number of importance.
Graphic trunk configuration	Set routing of calls, collection of DID data and all PSTN properties such as ISDN and T1 signaling via a graphical interface.
Automatic Routing Selection	TeleVantage trunks can be configured to route calls to specific trunks or with certain prefix/suffixes based on number dialed, time of day or who placed the call. This enables least cost routing, toll bypass over VoIP, or system dialing security features.
Exportable Call Log	View all calls placed into and out of the system including who handled the call on which devices, when and for how long. TeleVantage also allows this data to be exported to be brought into other tools for further analysis
System Usage Reporting	Adding the TeleVantage Reporter license allows users to run reports on user activity, response time to answer calls, trunk utilization, tenant/organization group usage, account code usage, or run reports that dig into full call log data.
Automatic system security check	TeleVantage can automatically scan extensions for insecure easy to guess password and warn the administrator. Administrators can set policies to expire passwords, force them to be certain lengths, and not permit them to contain certain patterns.
Client Interface Features	
Easy Graphical User Interface	TeleVantage ViewPoint is a graphical Windows desktop application that provides rich call control, voice mail, contact management and advanced user settings.
Graphical Call Control	Point and click to take calls, conference callers, record calls, put on hold or park, drag and drop for blind or supervised transfer.
Grab & Hold	While a call is ringing, a user can click on it and select Hold. The caller hears a custom message indicating that the user has seen their call and will be right with them.
Drag and Drop dialing from other applications	Highlight a number in another application, such as a phone number in an email or on a web page, and drag & drop it to TeleVantage ViewPoint to have the system place the call for you.
Graphical Voice Mail	Users can run TeleVantage ViewPoint on the desktop PC to graphically see all messages, point and click to play them back in any order, drag and drop to organize in folders, point and click to return calls, take notes on voice mail, bookmark important sections of messages for later playback or export messages as wav files to be shared with others.
Contact Management	Enter and maintain multiple numbers for contacts and associate call records and voice titles with them. Associate PIN numbers with top contacts. Import/export contact records from/to other applications (or dial directly from other CRM applications as well).

Features	Artisoft TeleVantage 6 PBX
Personal Call Log	Review all calls placed and received by your extension including time of day and duration as well as any notes taken during or after the call
Rules based call handling	Define specific rules for how calls should be routed to one or multiple locations to create simple ringing or advanced patterns such as follow me call forwarding. Set rules to have certain calls from top customers handled in special ways or have calls handled differently based on time of day or holidays.
Personal Statuses	Use system provided or custom created personal statuses define which rules and routings apply when in that state. Users can easily toggle via the phone or ViewPoint among multiple statuses such as Available, Do Not Disturb, In A Meeting, Out of the Office, On Vacation, etc. With these statuses, a single button push enables users to change how calls are routed and what greetings are heard by callers.
Standards Supported	
H.323	TeleVantage supports the H.323 standard for VoIP connectivity.
MAPI & SMTP	TeleVantage can integrate with mail products such as Microsoft Outlook and Exchange, Lotus Notes, or any SMTP compliant mail system.
TAPI	TeleVantage provides point and click to dial from any TAPI compliant contact management or CRM application such as Outlook, ACT!, Goldmine, etc.. TeleVantage also provide screen pops via TAPI such as with ACT! or via the TeleVantage Contact Manager Assistant with Outlook and Goldmine. Additionally TeleVantage support click to dial and screen pops with the Microsoft CRM application
COM object SDK	Artisoft publishes an open API that exposes MS COM objects for all TeleVantage functions including IVR, data, and an extensible ViewPoint Add-On API to extend the graphical ViewPoint applications
SMDR	TeleVantage supports a variety of PBX formats of standard SMDR via serial port interface.
Monitoring Features	
Executive Whisper / Executive Override	Users can be given permission to whisper into the ear of another user who is on a call. For example, an admin assistant might whisper to an executive about someone waiting in the lobby. Additionally, with the right permissions, someone can barge in and join a call in progress.
Device monitor	The TeleVantage device monitor shows real time trunk and station status, which trunk is connected to which station or what outside caller ID name and number. Administrators can also point and click to restart a trunk or station remotely without having to be on site to unplug and reconnect any wires.
Diagnostic and Troubleshooting Features	
Email notification	The system will email any administrators or designated individuals when system issues arise.
Heartbeat and Analog PSTN failover	The connection panel used for analog trunk and stations monitors system power and a heartbeat signal from the server. If power fail or loss of heartbeat is detected, the connection panel will direct connect outside trunks directly to desktop handsets.
Administrative resource usage monitoring	The TeleVantage administrator indicates on screen what percentage of message storage each user is consuming at the time.
ACD Features	
Define Agent Queues & permissions	Select agents from system user list, define default agent permissions and permissions for specific agents. Supervisors are defined as agents with fuller sets of permissions.
Route calls as desired	Calls can be routed to agents in order, round robin through the list, to the agent who has had the fewest calls or the least talk time, who has been idle the longest or even simultaneously to all agents
Customizable wrap up time	Agents can be set with specific wrap up time during which they will not receive a new call after finishing a prior call.
Redirect if busy	Define how to handle calls if the queue has too many calls or too few agents. Calls can be sent to other extensions or queues or to message boxes, or simply be rejected to receive busy signal from the CO.
Inbound/Outbound blended queues	You can mix agents handling inbound and outbound calls within a single queue

Features	Artisoft TeleVantage 6 PBX
Real-time statistics	Supervisors can see real-time queue and agent statistic on screen.
Automatic queue and agent recording	Queues can be set to record every nth call to the queue or to specific agents for training or overall quality assurance purposes
Prioritize certain callers	In most cases calls are handled in first in first out fashion. This priority can be automatically adjusted based on number dialed or more advanced interaction of add-on or custom written solutions such as to check caller customer id information.
Tiered overflow agents	Calls can be routed to multiple tiers of overflow agents when all primary agents are not available and certain defined overflow conditions are met.
Bail out to voice mail	Callers can be given the option to stop waiting in queue and send their call to voice mail to be handled by an agent at a later time.
Silently monitor, coach, join calls	Supervisors can silently listen in on agent calls, whisper to an agent without the outside caller hearing, or even “barge-in” to join the call completely.
Report on agent and queue performance and activity	All TeleVantage data is kept in MS SQL Server engine on the TeleVantage server. Supervisors can run reports that pull pertinent data into Microsoft Excel to show agent or queue performance, call trends, and service levels.
Miscellaneous Features	
Personal Statuses	Users can easily toggle via the phone or PC Client among multiple statuses such as Available, Do Not Disturb, In A Meeting, Out of the Office, On Vacation, etc. With these statuses, a single button push enables users to change how calls are routed and what greetings are heard by callers.
Call recording for system, queues or on demand	Record all calls handled by the system, record the Nth call for any queue or agent, or exclude any individuals from being recorded, or enable individuals to record specific calls by pressing buttons on their phone or by using TeleVantage ViewPoint, the graphical desktop PC interface.
Unique Features	
Call Screening	Optionally hear who is calling when your phone rings and decide whether to take the call. Callers can be asked by the system to say their name or known contacts can have recorded names on file.
Multi-lingual telephone prompts (for system features like transfers, conferences)	TeleVantage provides a rich voice guided interface for system commands through the phone, such as “To Transfer Press 1, To send to Voice Mail Press 2,” etc. Multiple languages can be installed on the system and the system will speak to users in their language of choice.
Play messages into live call	Using TeleVantage ViewPoint, you can click on any recording or greeting and play it into a live call – useful to review call recordings with a caller, play voice mail messages to a caller or play pre-recorded “hello” greetings

The only limitation we found with the TeleVantage 6.0 system is the minimal number of H.323-based phones that are designated as supported, and no SIP phones are supported. We didn’t identify any “missing features” with the TeleVantage 6 system. This system is indeed feature-rich, and even supports ACD capabilities. Voice prompts allow the use of call-control features directly from a handset phone, especially convenient for cordless phone users.

Overall, we rated the Artisoft TeleVantage 6 features an “9.3.”

5.3 Product Documentation and Integrated Help Evaluations

The following Adobe Acrobat-based documents from Artisoft were evaluated:

- the 292-page Installing TeleVantage administrative guide,
- the 478-page Administering TeleVantage administrative guide, and
- the 342-page Using TeleVantage user guide.

All three were found to be well-written, with plenty of illustrative screenshots and graphics. We were particularly impressed by the length and depth of the indexes in these documents. Very few product manufacturers take the time and effort to make their indexes so useful. Very nice! The two administrative guides provided a wealth of troubleshooting information – a fact that a real-world administrator will find quite helpful.

We also evaluated the on-line help files for the TeleVantage Administrator and the TeleVantage ViewPoint client. The Administrator's on-line help presented much information but was focused on the various GUI screens and options rather than how to perform key tasks. The ViewPoint client's on-line help was better, giving descriptions of the screens as well as how to perform various tasks.

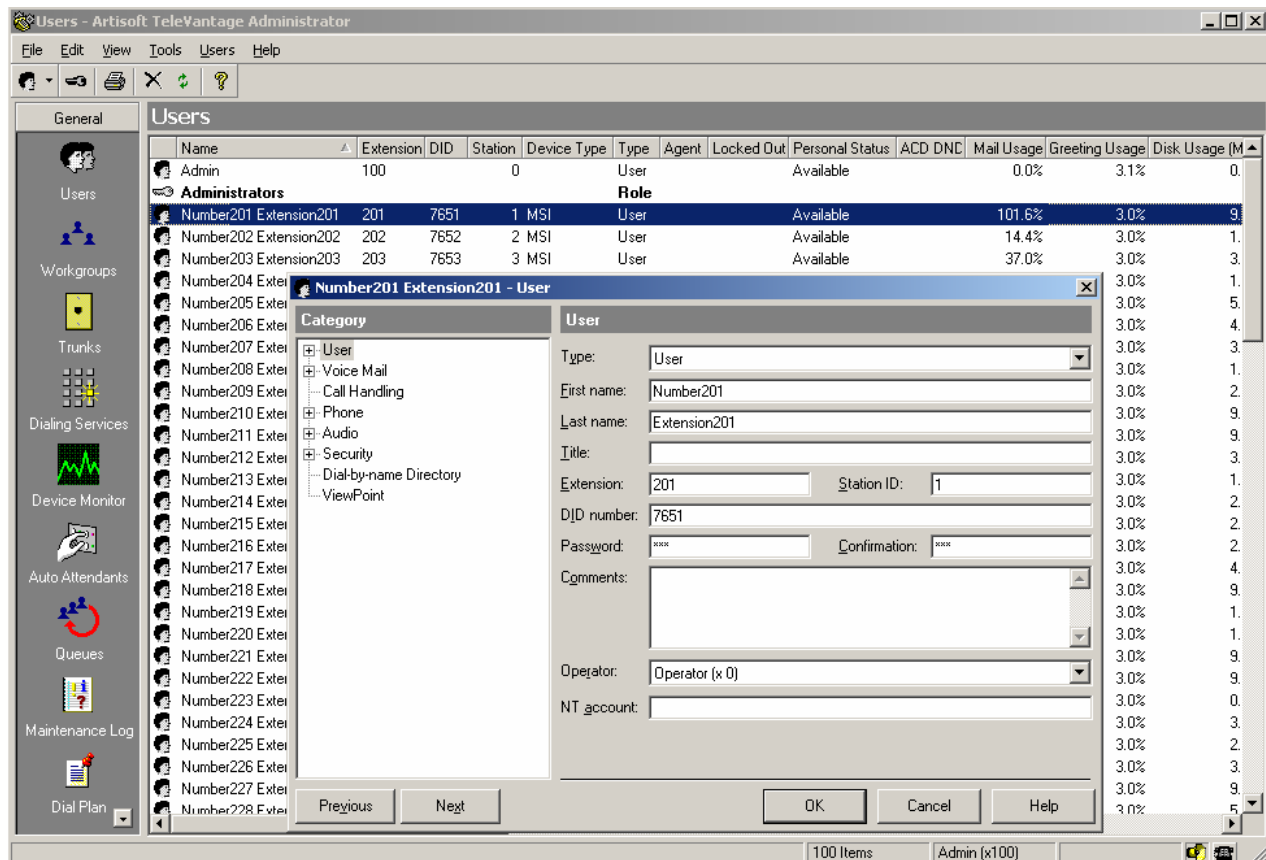
We rate the overall score of the TeleVantage 6 documentation and integrated help to be an "8.5."

5.4 Graphical User Interface Ease of Use Evaluation

CT Labs reviewed the TeleVantage Administrator GUI and the ViewPoint client GUI.

The TeleVantage Administrator GUI is a well-designed Windows-based program with descriptive labels and easily-identifiable icons. One thing we liked: the administrator can open the ViewPoint client program for any user and make changes to their settings. We also liked being able to easily display the system maintenance log as well as seeing the full list of system prompts. One drawback: you can't create or edit multiple users at once. However, once users are entered TeleVantage 6 makes it easy to navigate to the *previous* or *next* users in the list, as shown in Figure 2 below.

**Figure 2: TeleVantage Administrator Users
(with user configuration window open)**



The Artisoft TeleVantage Device Monitor can be launched within the administrative GUI, or it can be deployed as a separate window, allowing the administrator to choose whichever is most convenient at the time. It is shown in the TeleVantage Administrator GUI in Figure 3 below.

Figure 3: TeleVantage Administrator Device Monitor

The screenshot shows the 'Device Monitor' window of the Artisoft TeleVantage Administrator. The window has a menu bar (File, Edit, View, Tools, Device Monitor, Help) and a toolbar. On the left is a navigation pane with icons for Users, Workgroups, Trunks, Dialing Services, Device Monitor (selected), Auto Attendants, Queues, Maintenance Log, and Dial Plan. The main area contains two tables.

Station Table:

Station	Status	Device Type	Device	Assignment	Logged In	Active Party
21	Idle	MSI	msiB1C21	Number221 Extension221 (x 221)	Number221 Extension221	
22	Idle	MSI	msiB1C22	Number222 Extension222 (x 222)	Number222 Extension222	
23	Idle	MSI	msiB1C23	Number223 Extension223 (x 223)	Number223 Extension223	
24	Idle	MSI	msiB1C24	Number224 Extension224 (x 224)	Number224 Extension224	
25	Idle	MSI	msiB1C25	Number225 Extension225 (x 225)	Number225 Extension225	
26	Navigating TUI	MSI	msiB1C26	Number226 Extension226 (x 226)	Number226 Extension226	Number226 Extension226
27	Internal dial	MSI	msiB1C27	Number227 Extension227 (x 227)	Number227 Extension227	Number227 Extension227
28	Idle	MSI	msiB1C28	Number228 Extension228 (x 228)	Number228 Extension228	
29	Idle	MSI	msiB1C29	Number229 Extension229 (x 229)	Number229 Extension229	
30	Idle	MSI	msiB1C30	Number230 Extension230 (x 230)	Number230 Extension230	
31	Navigating TUI	MSI	msiB1C31	Number231 Extension231 (x 231)	Number231 Extension231	Number231 Extension231
32	Navigating TUI	MSI	msiB1C32	Number232 Extension232 (x 232)	Number232 Extension232	Number232 Extension232
33	Pre-Idle	MSI	msiB1C33	Number233 Extension233 (x 233)	Number233 Extension233	
34	In call	MSI	msiB1C34	Number234 Extension234 (x 234)	Number234 Extension234	Number234 Extension234
35	In call	MSI	msiB1C35	Number235 Extension235 (x 235)	Number235 Extension235	Number235 Extension235

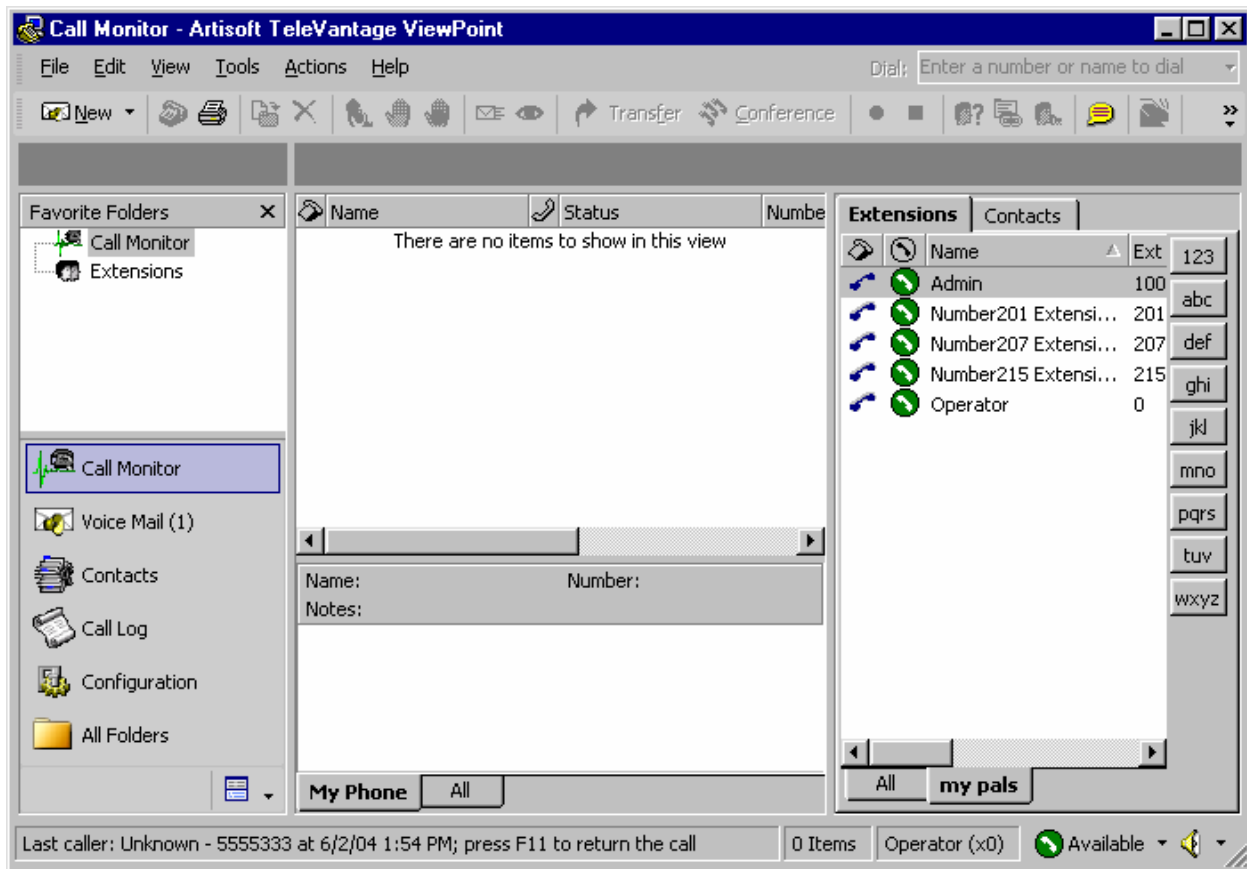
Trunk Table:

Trunk	Status	Detected Device	Configured Device	Device	In	Out	Enabled	Name	RTP Resource	Active
1	Taking message	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T1	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		Unkr
2	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T2	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		
3	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T3	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		
4	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T4	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		
5	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T5	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		
6	In call	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T6	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		Unkr
7	Taking message	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T7	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		Unkr
8	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T8	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		
9	Idle	ISDN (T1/E1)	ISDN (T1/E1)	dtb1T9	✓	✓	✓	ISDN/CAS T1/E1 Span 1 Tr		

At the bottom, there is a section for 'Station 1' with fields for Device, Active Party Name, and Number. The status bar at the bottom right shows '120 Items' and 'Admin (x100)'.

The ViewPoint client is a Windows-based GUI which allows a user to log on, choose their desired associated phone device, and manage calls and voicemails, and define and change their status. This GUI provides the user with a variety of call-control features, including the ability to screen messages being left in voicemail. This is a very powerful feature! The user can choose to hear messages through their PC speakers, or through their associated phone device. Some of the more advanced features include the ability to create custom workgroups (see the “my pals” tab on the right hand side of Figure 4 below), where instead of seeing all extensions and having to scroll up and down to find a particular friend, you can easily keep track of just the extensions that interest you.

Figure 4: TeleVantage ViewPoint client Call Monitor



Overall, we rated the Artisoft TeleVantage 6 GUIs a “9.0.”

5.5 Telephone User Interface Ease of Use Evaluation

We evaluated three aspects of the TeleVantage 6.0 telephone user interface: the voicemail system, the auto-attendant, and the station-phone touch-tone call-control commands. We found the TeleVantage 6 voicemail system to be well-organized, with informative prompts and logical grouping of features. The TeleVantage 6 auto-attendant was found to be fully customizable, allowing for multiple auto-attendants, nested menus, and date/time flexibility. TeleVantage 6 also offered a wide variety of call-control commands available directly from a touch-tone station phone. For example, during a phone call, you can push the <flash> key, and the system will prompt you with a menu of choices, including hold, transfer, transfer to voicemail, and park. Very handy!

Overall, we rate the TeleVantage 6 Telephone User Interfaces an “8.5.”

5.6 Manual PBX Feature Exercise Results

For the manual feature exercise, CT Labs testers spent several hours exercising as many features and options as possible from the list of features provided by Artisoft. The following table presents the results of features that were tested.

Table 5: Manual Feature Exercise Results

PBX Features	Comments
Analog and IP feature phones	We used both regular analog phones and Uniden UIP300 IP phones for this test. Both worked without any problems.
Hold & Park	Tested fine – no problems encountered.
Conferencing	Tested fine for up to 3-party conference calls – no problems encountered.
Account codes	Tested fine – no problems encountered.
Camp on	Tested fine – no problems encountered.
Auto Attendant Features	Comments
Multi-level auto attendants	Tested fine – no problems encountered.
Dial by name directory	Tested fine – no problems encountered.
Time of Day / Holiday routings and greetings.	Tested fine – no problems encountered.
Voice Messaging Features	Comments
Message Waiting Indication	Tested fine with stutter dial tone on analog phones. Uniden phones indicated messages with a message-waiting light and stutter dial tone.
Reply, forward messaging and call back functions	Tested fine – no problems encountered.
Live message screening	Tested fine – no problems encountered.
Private and Urgent flags	Tested fine – no problems encountered.
Graphical Voice Mail	Tested fine – no problems encountered.
Custom Greetings	Tested fine – no problems encountered.

Administrative Interface Features	Comments
Windows based administration from anywhere	Only tested directly from the server.
Device monitor	Tested fine – no problems encountered.
Point and click Moves, Adds, and Changes	Tested fine – no problems encountered – the only drawback is that users could only be created and edited one at a time.
Class of Service permissions	Tested fine – no problems encountered.
Dialing restrictions	Tested fine – no problems encountered.
Graphic trunk configuration	Tested fine – no problems encountered.
Automatic Routing Selection	Tested fine – no problems encountered.
Exportable Call Log	Tested fine – no problems encountered.
Automatic system security check	Tested fine – no problems encountered.
Client Interface Features	Comments
Easy Graphical User Interface	Tested fine – no problems encountered.
Graphical Call Control	Tested fine – no problems encountered.
Grab & Hold	Tested fine – no problems encountered.
Graphical Voice Mail	Tested fine – no problems encountered.
Contact Management	Tested fine – no problems encountered.
Personal Call Log	Tested fine – no problems encountered.
Rules based call handling	Tested fine – no problems encountered.
Personal Statuses	Tested fine – no problems encountered.
Standards Supported	Comments
H.323	Tested fine – no problems encountered.
Diagnostic and Troubleshooting Features	Comments
Administrative resource usage monitoring	Tested fine – no problems encountered.
Unique Features	Comments
Call Screening	Tested fine – no problems encountered.
Telephone prompts (for system features like transfers, conferences)	Tested fine – no problems encountered.

Overall, we found that the TeleVantage 6 features were well implemented and trouble-free. We rate them a “9.2.”

5.7 Manual PBX Functionality Results

CT Labs manually exercised the TeleVantage 6 product with a variety of phone and call types. During these calls, CT Labs testers noted perceived call quality, call connection capability, and any call handling problems.

Table 6: Manual PBX Functionality Results

Call Connection & Perceived Call Quality		Terminating Phone		
		Internal Analog Phone	Internal Uniden UIP 300 H.323 IP Phone	"External" Analog Phone
Originating Phone	Internal Analog Phone	Not Tested	All Calls Successful High Call Quality	All Calls Successful High Call Quality
	Internal Uniden UIP 300 H.323 IP Phone	All Calls Successful High Call Quality	All Calls Successful High Call Quality	All Calls Successful High Call Quality
	"External" Analog Phone	All Calls Successful High Call Quality	All Calls Successful High Call Quality	Not Tested

All calls placed in this manual functionality testing evaluation were completed successfully with high perceived call quality. No problems were noted with call connectivity or call quality. The only thing we noticed is that sometimes it would take the Uniden UIP 300 phones a second or two to get dial tone when we lifted the receiver. As well, the Uniden phones took a second or two to start ringing when a call was placed to them. Once a call was established between any two phones, however, there was no noticeable latency during the conversation.

Overall, we rate TeleVantage 6 functionality a "9.4."

5.8 Technical Support

Throughout the evaluation process, each tester was instructed to keep track of when questions were posed to the technical support department, and when a callback or email response was received. The status of each reported bug or product defect, if any, was maintained in a log. The relative responsiveness of the vendor as well as the quality of the answers received was also noted, if any.

For this test, CT Labs was assigned a technical contact at Artisoft. We found that we only needed assistance in setting up the Uniden UIP 300 H.323 IP phones as station phones. While we were not able to reach our technical support person on our first attempt, he returned our call promptly and was very friendly and knowledgeable in helping us set up the phones.

We rate our technical support experience a "9.5."

End of report